CLAIMS:

1. A data transmission method in a communication system, the system comprising at least one base station and at least one subscriber station, wherein the at least one subscriber station allocates capacity for connections, the method comprising:

first transmitting from a subscriber station at least one capacity request message;

granting a capacity subscriber station-specific by a base station;

second transmitting at least one capacity grant message from the base station;

allocating granted capacity connection-specific by the subscriber station;

third transmitting from the subscriber station at least one message wherein the at least one message comprises information based on previous capacity requests;

fourth transmitting data from the subscriber station according to a capacity allocation; and

monitoring by the base station of at least one of capacity request messages, capacity grant messages and received transmissions.

2. A data transmission method in a communication system, the system comprising at least one base station and at least one subscriber station, wherein the at least one subscriber station allocates capacity for connections, the method comprising:

first determining communication groups;

second determining a group priority order;

first transmitting at least one capacity request message from a subscriber station;

granting a capacity subscriber station-specific by a base station;

second transmitting at least one capacity grant message from the base station;

scheduling connections by the subscriber station based on the communication groups, the group priority order and the granted capacity;

third transmitting from the subscriber station at least one message, wherein the at least one message comprises information based on previous capacity requests;

fourth transmitting data from the subscriber station, wherein the data is related to a connection scheduling; and

monitoring by the base station of at least one of capacity request messages, capacity grant messages and received transmissions.

3. The method of claim 2, wherein the first determining step comprises determining the communication groups based on connection quality demands.

4. The method of claim 2, wherein the second determining step comprises defining the group priority order based on connection quality demands.

5. The method of claim 2, wherein the first determining step comprises determining the communication groups comprising a service class selected from at least one of Unsolicited Grant Service, Real-Time Polling Service, Non-Real-Time Polling Service and Non-Unsolicited Grant Service.

6. The method of claim 1, wherein the monitoring step comprises monitoring data based on messages and transmissions using a memory table.

7. The method of claim 1, wherein the third transmitting step comprises transmitting an update message which replaces at the base station a previous information connection-specific.

8. The method of claim 1, wherein the third transmitting step comprises transmitting an update message which replaces information based on a need for bandwidth for a connection.

9. The method of claim 1, wherein the step of monitoring by the base station comprises using information based on the request messages, the capacity grant messages and the received transmissions for avoiding a mismatch between a granted capacity and data received from a subscriber station.

10. A communication system, the system comprising:

first transmitting means for transmitting capacity request messages;

granting means for granting a capacity subscriber station-specific;

second transmitting means for transmitting capacity grant messages;

allocating means for allocating granted capacity connection-specific;

third transmitting means for transmitting messages, wherein the messages comprise information based on previous capacity requests;

fourth transmitting means for transmitting data according to the capacity allocation made by a subscriber station; and

monitoring means for monitoring at least one of the request messages, capacity grant messages and received transmissions.

11. A communication system, the system comprising:

grouping means for grouping connections into predetermined communication groups;

first transmitting means for transmitting capacity request messages;

granting means for granting a capacity subscriber station-specific;

second transmitting means for transmitting capacity grant messages;

scheduling means for scheduling connections based on the communication groups, a predetermined group priority order and the granted capacity;

third transmitting means for transmitting messages, wherein the messages comprise information based on previous capacity requests;

fourth transmitting means for transmitting data according to a connection scheduling; and

monitoring means for monitoring at least one of the request messages, the capacity grant messages and received transmissions.

12. The system of claim 11, wherein the communication groups are arranged into a priority order.

13. The system of claim 11, wherein the communication groups comprise a service class selected from at least one of Unsolicited Grant Service, Real-Time Polling Service, Non-Real-Time Polling Service and Non-Unsolicited Grant Service .

14. The system of claim 10, wherein the monitoring means comprising monitoring data based on messages and transmissions using a memory table.

15. The system of claim 10, further comprising fifth transmitting means for transmitting update messages comprising information based on

previous capacity requests, wherein the update messages replace at the base station previous information on a connection.

16. The system of claim 10, further comprising avoiding means for avoiding mismatch between a granted capacity and data received from a subscriber station using information based on the request messages, the capacity grant messages and the received transmissions.

17. A base station of a communication system, the base station comprising:

granting means for granting a transmission capacity subscriber station-specific;

transmitting means for transmitting capacity grant messages to at least one subscriber station; and

monitoring means for monitoring capacity request messages received from the at least one subscriber station, capacity grant messages sent by a base station and data transmissions received from the at least one subscriber stations.

18. The base station of claim 17, wherein the monitoring means comprises monitoring data based on messages and transmissions using a memory table.

19. The base station of claim 17, further comprising avoiding means for avoiding a mismatch between a granted capacity and data received from a subscriber station using information based on request messages, capacity grant messages and received transmissions.

20. A subscriber station of a communication system, wherein the subscriber station allocates a capacity for connections, the subscriber station comprising:

first transmitting means for transmitting capacity request messages of at least one connection;

receiving means for receiving capacity grant messages from a base station;

allocating means for allocating connection-specific a capacity granted by a base station;

second transmitting means for transmitting messages, wherein the messages comprise information based on previous capacity requests of a subscriber station; and

third transmitting means for transmitting data according to a capacity allocation made by the subscriber station.

21. A subscriber station of a communication system wherein the subscriber station allocates capacity for connections, the subscriber station comprising:

first transmitting means for transmitting capacity request messages of at least one connection;

grouping means for grouping connections into predetermined communication groups;

scheduling means for scheduling the connections based on the predetermined communication groups, a predetermined group priority order and a capacity granted by a base station;

second transmitting means for transmitting messages wherein the messages comprise information based on previous capacity requests; and

third transmitting means for transmitting data according to a connection scheduling.

22. The subscriber station of claim 20, wherein the communication groups comprise a service class selected from at least one of Unsolicited Grant Service, Real-Time Polling Service, Non-Real-Time Polling Service and Non-Unsolicited Grant Service.

23. The subscriber station of claim 20, further comprising fourth transmitting means for transmitting update messages comprising information based on the previous capacity requests, wherein the update messages replace at the base station previous information on the connection.

24. A base station of a communication system configured to:

receive capacity request messages from at least one subscriber station;

grant a transmission capacity subscriber station-specific,

transmit capacity grant messages to the at least one subscriber station; and

monitoring request messages received from the at least one subscriber stations, capacity grant messages sent by a base station and data transmissions received from the at least one subscriber station.

25. A subscriber station of a communication system wherein the subscriber station allocates capacity for connections, the subscriber station configured to:

transmit capacity request messages of at least one connection;

allocate connection-specific a capacity granted by a base station;

transmit messages wherein the messages comprise information on previous capacity requests; and

transmit data from a subscriber station according to a capacity allocation made by the subscriber station.